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Acute Coronary Syndromes

BIODEGRADABLE POLYMER VERSUS PERMANENT POLYMER SIROLIMUS-ELUTING STENTS IN UNSELECTED PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION UNDERGOING PRIMARY PERCUTANEOUS CORONARY INTERVENTION

ACC Moderated Poster Contributions
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Session Title: Acute Coronary Syndromes: Clinical IV
Abstract Category: 4. Acute Coronary Syndromes: Therapy
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Background: This study sought to evaluate the efficacy and safety of a novel sirolimus-eluting stent (SES) with biodegradable polymer in primary percutaneous coronary intervention (PCI) for unselected patients with ST-segment elevation myocardial infarction (STEMI).

Methods: A prospective cohort study was performed on patients with STEMI undergoing primary PCI from January 2007 to June 2010. A total of 505 consecutive patients treated exclusively with either biodegradable polymer SES (BP-SES) or permanent polymer SES (PP-SES) were included (211 with BP-SES and 294 with PP-SES). The primary endpoint was target lesion failure (TVF), which was defined as the composite of cardiac death, reinfarction or target lesion revascularization (TLR) at 12 months follow-up.

Results: The incidence of primary endpoint of TLF in the BP-SES group was similar to that in the PP-SES group (6.8% versus 6.2%; P = 0.85) at 12 months follow-up. Patients treated with BP-SES had comparable rates of cardiac death (3.9% vs. 4.8%, p = 0.66), myocardial infarction (1.4% vs. 1.0%, p = 0.70), and TLR (2.4% vs. 1.4%, p = 0.50) when compared to those treated with PP-SES. The rate of definite or probable stent thrombosis in the BP-SES group was numerically lower than that in the PP-SES group, but without statistical significance (0.5% vs. 1.4%, p = 0.41).

Conclusions: In primary PCI for real-world patients with STEMI, the novel BP-SES is comparable to the established PP-SES in terms of clinical efficacy and safety over 1 year. Further investigation is warranted to validate the potential clinical advantage of BP-SES over the medium to long term.